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Spionidae (Annelida, Polychaeta) from Japan VI. The Genera *Malacoceros* and *Rhynchospio*

By

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Abstract Four species of spionids, *Malacoceros indicus* (FAUVEL), *Rhynchospio glutaea* (EHLERS), two new species *Rhynchospio tuberculata* and *R. foliosa*, are described from Japanese waters. Species of *Malacoceros* and *Rhynchospio* are reported for the first time from the Japanese area.

During the course of a study on Japanese spionids, four species belonging to the genera *Malacoceros* and *Rhynchospio* were recorded. These genera have not been previously reported from Japanese waters and *Malacoceros indicus* is reported for the first time from the Pacific Ocean. Two new species of *Rhynchospio* are described.

Malacoceros and *Rhynchospio* are very closely related, being distinguished primarily by the appearance of the first pair of branchiae on setiger 1 in *Malacoceros* and setiger 2 in *Rhynchospio*. Various authors have treated these two taxa as separate genera (FAUCHALD, 1977; BLAKE & KUDENOV, 1978; BLAKE, 1983); whereas others have recognized them only as subgenera (PETTIBONE, 1963; FOSTER 1971a). It is considered that the first occurrence of the branchiae has a sufficient taxonomic weight to support the separation of *Malacoceros* and *Rhynchospio* into two genera.

The collection localities mentioned in the text are shown in Fig. 1. The bulk of the collection described in this paper, including type specimens, is deposited in the National Science Museum, Tokyo.

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Genus *Malacoceros* QUATREFAGES, 1843

Prostomium T-shaped, with laterally projecting frontal horns; eyes present or absent. Branchiae present from setiger 1 to near end of body. Notopodial setae capillaries only; neuropodial setae include capillaries, hooded hooks and ventral sabre setae; hooks bidentate, tridentate, or quadridentate. Pygidium with anal cirri.

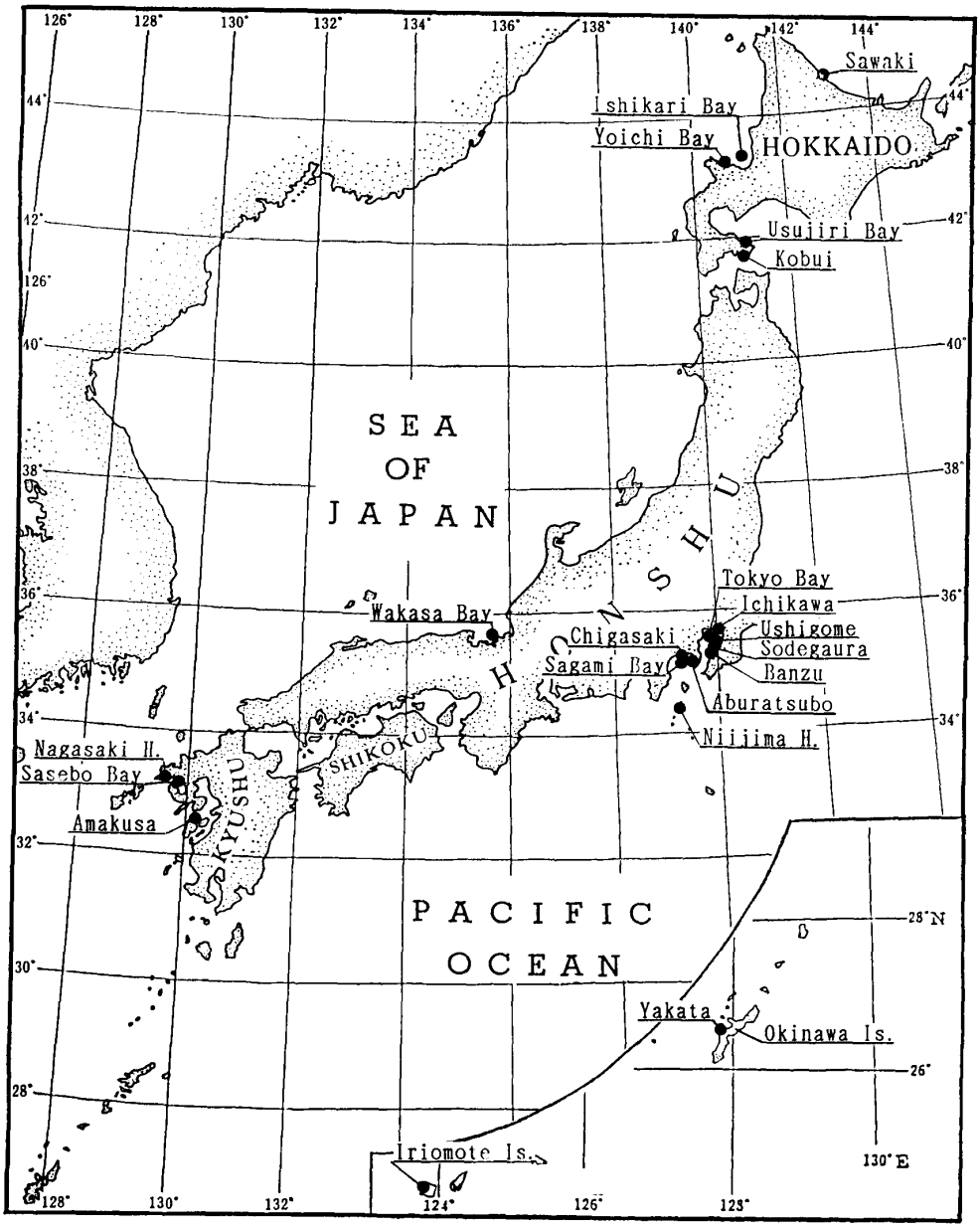

Fig. 1. Map of Japan, showing localities mentioned in the text.

Malacoceros indicus (FAUVEL, 1928)

(Figs. 2a–g, 3a–j)

Scolelepis indica FAUVEL, 1928, pp. 93–94, fig. 2, g–m; 1930, pp. 35–36, fig. 7, g–m; 1953, pp. 313–314, fig. 165, g–m; MONRO, 1931, p. 25.

Malacoceros indicus: PETTIBONE, 1963, p. 99; DAY, 1967, p. 477, fig. 18.5. p–u; BLAKE & KUDENOV, 1978, p. 195; BLAKE, 1983, p. 219.

Malacoceros (*Malacoceros*) *indicus*: FOSTER, 1971a, pp. 50–53, figs. 93–99; 1971b, pp. 1455–1457, figs. 1–6.

Material examined. Ishikari Bay, 43°21.0′N, 140°51.4′E, in 84 m (3), V–1987. Sagami Bay, 35°06.5′N, 139°36.2′E, in 50 m (1), 35°06.4′N, 139°37.2′E, in 50 m (1), 35°07.1′N, 139°39.3′E, in 50 m (1), VIII–1978; 35°08.1′N, 139°34.6′E, in 100 m (1), 35°08.1′N, 139°33.6′E, in 100 m (2), 35°08.1′N, 139°32.9′E, in 150 m (1), VII–1987. Off Nagasaki Harbor, in 25 m (1), III–1971. Sasebo Bay, 33°05.6′N, 128°41.6′E, in 35 m (2), VIII–1972; 33°05.2′N, 128°40.0′E, in 30 m (1), II–1973. Yakata, Okinawa Is., sea grass bed, XII–1987 (3), III–1988 (2), VI–1988 (5), VIII–1988 (6), coll. T. IKEMA. Amitori Bay, Iriomote Is., intertidal zone (1), V–1983, coll. T. HABE.

Description. All material posteriorly incomplete; largest specimen with 126 setigers, measuring 38 mm in length and 2.0 mm in width including parapodia. Body slender, subcylindrical, yellowish tan in alcohol.

Prostomium T-shaped with thick, short, frontal horns, tapering abruptly to blunt caruncle extending to anterior or posterior edge of setiger 1 (Fig. 2a, b); two irregular clusters of small 6–8 eyespots present; occipital tentacle absent. Proboscis partially everted with a pair of bulbous lobes on each side, just behind level of frontal horns (Fig. 2a-c).

Branchiae present from setiger 1, continuing to end of fragment; branchiae elongate, tapered, fused only basally with notopodial lamellae, heavily ciliated (Fig. 2d-g, 3a, b); first branchiae longer than notopodial lamellae (Fig. 2d).

Parapodia of setiger 1 well developed; notopodial postsetal lamellae slender, triangular, with tapered end; neuropodial postsetal lamellae conical; noto- and neuropodial presetal lamellae transforming into interramal glandular structures (Fig. 2d). Subsequent notopodial postsetal lamellae foliaceous, broad basally, abruptly tapered, almost attenuate but decreasing in size posteriorly (Fig. 2e-g, 3a, b). Neuropodial postsetal lamellae rounded with small medial nipplelike protuberance (Fig. 2f, g); more posterior lamellae low, rounded with nipple clearly accentuated at apex (Fig. 3a, b). Interramal glandular structures continuing through about setiger 40 (Fig. 2f).

Anterior noto- and neuropodial setae all capillaries; setae arranged in 2 rows; notopodial setae of anterior row short, moderately granulated but lacking sheaths (Fig. 3c); setae of posterior row longer, with sheaths but lacking granulations (Fig. 3d); posterior capillaries include short and long non-granulated setae (Fig. 3f). Anterior neuropodial setae arranged in 2 rows, similar to notopodial setae (Fig. 3e). Neuropodial hooded hooks from setiger 30–57, numbering up to 11 per fascicle; hooks accompanied by sheathed capillaries throughout (Fig. 3a, b, g); hooks with four small teeth above main fang, secondary hood small (Fig. 3h, i). Ventral sabre setae from about neuropodial setiger 20, numbering 2–5 per fascicle; each seta moderately granulated with narrow sheath (Fig. 3j). Nature of pygidium unknown.

Remarks. Specimens from Japan agree well with the description of *Maracoceros indicus* by FOSTER (1971a) from the Caribbean Sea, except the new material has short anterior neuropodial setae having rather than lacking distinct sheaths and hooded hooks appearing on setiger 30–57 rather than on setiger 30–49.

The species is new to the Japanese fauna.

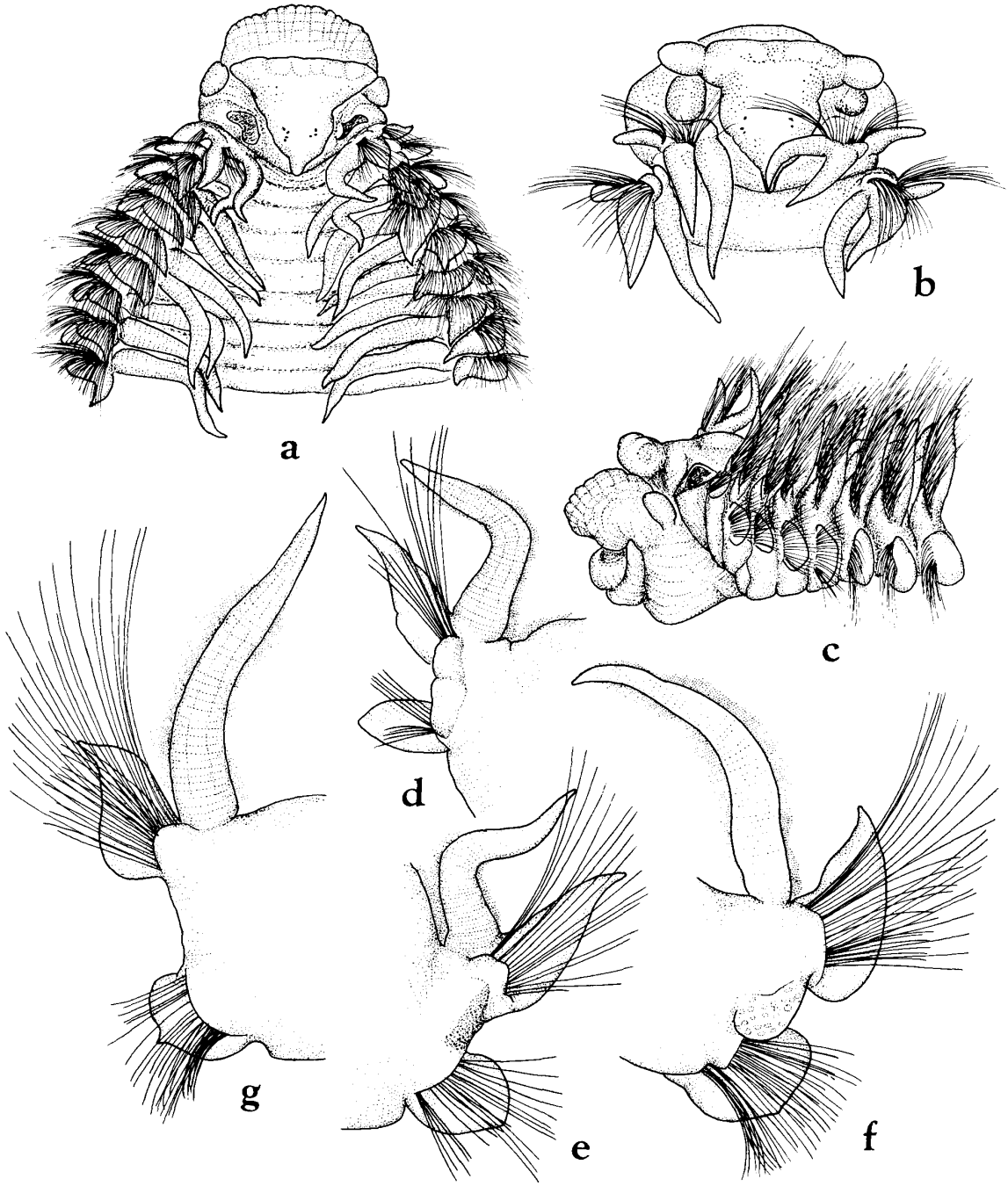

Fig. 2. *Malacoceros indicus* (FAUVEL).——a, Anterior end from Sasebo Bay, dorsal view, ×22; b, anterior end from Sagami Bay, dorsal view, ×40; c, anterior end from Sasebo Bay, lateral view, ×22; d, setiger 1 with branchia, anterior view, ×47; e, setiger 2 with branchia, anterior view, ×47; f, setiger 23 with branchia, anterior view, ×47; g, setiger 56 with branchia, anterior view, ×47.

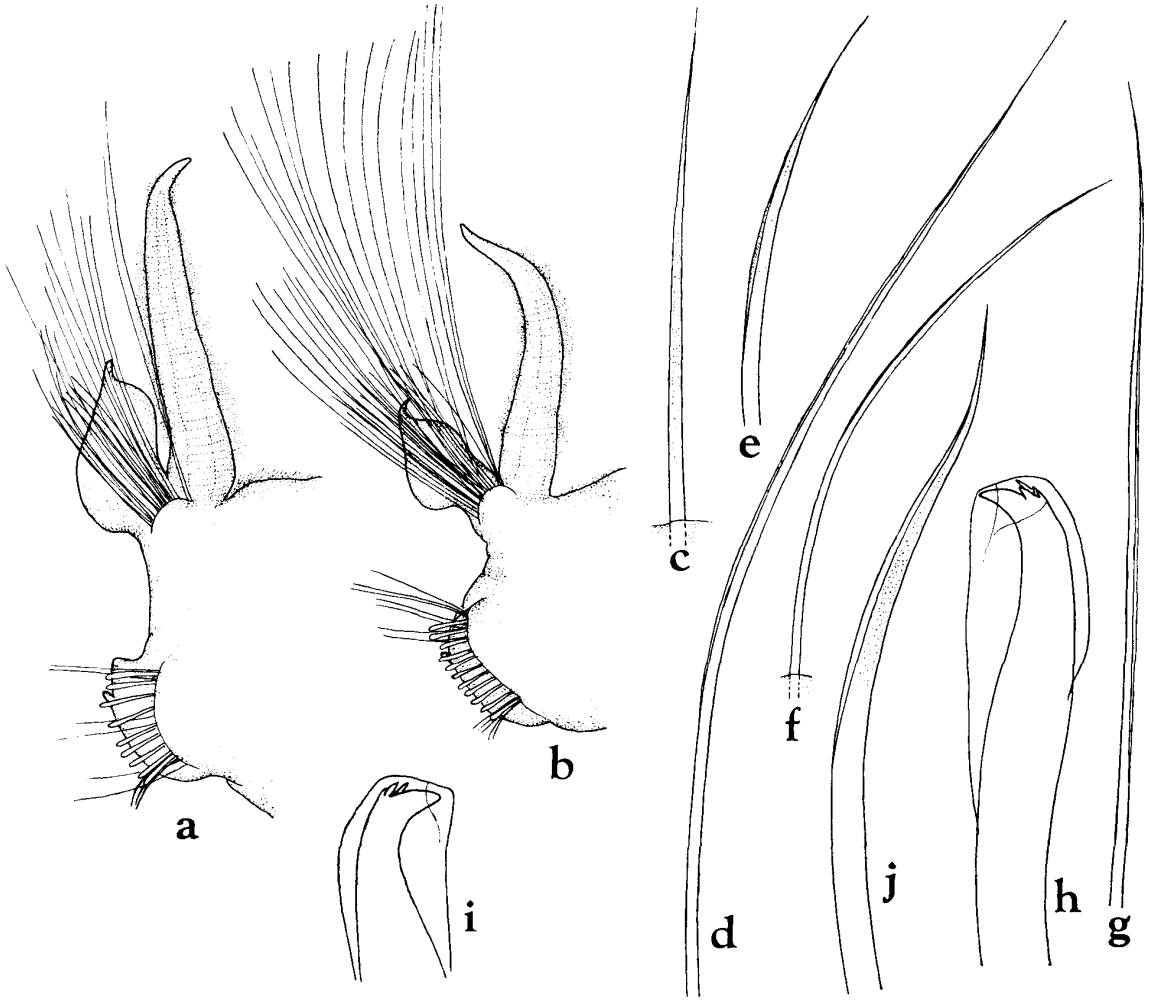

Fig. 3. *Malacoceros indicus* (FAUVEL).——a, Setiger 65 with branchia, anterior view, ×47; b, setiger 110 with branchia, anterior view, ×47; c, d, notopodial capillary setae in anterior (c) and posterior (d) rows of anterior setiger, ×180; e, neuropodial capillary seta in anterior row of same setiger, ×180; f, notopodial capillary seta of posterior setiger, ×180; g, companion seta of neuropodium, ×353; h, i, hooded hooks, lateral views, ×900; j, ventral sabre seta, ×638.

Distribution. India; Caribbean; New Caledonia; southwest Africa; Queensland; Chile; Japan; shallow water to 159 m.

Genus ***Rhynchospio*** HARTMAN, 1936

Prostomium with prominent frontal horns; eyes present; occipital tentacle absent. Branchiae present from setiger 2, free from notopodial lamellae or fused only basally, continuing to near end of body. Notopodial setae all capillaries; neuropodial setae include capillaries, hooded hooks and sabre setae. Pygidium with anal cirri or lobes.

FOSTER (1971a) reduced the number of valid species of *Rhynchospio* to two: *R.*

glutaeus (EHLERS, 1897) from the Straits of Magellan and *R. inflatus* FOSTER, 1971 from the Bahamas. BLAKE & KUDENOV (1978) added two species, *R. glycera* from New South Wales and *R. australiana* from West Australia.

Key to Japanese Species of *Rhynchospio*

1. Prostomium lacking caruncle..... *Rhynchospio glutaea* (EHLERS)
1′. Prostomium with prominent caruncle..... 2
2. Caruncle anteriorly forming conical, pointed elevation; with 3 minute tubercles on underside of prostomial horns; anterior branchiae elongate, of moderate size; pygidium with 2 thick lobes and 8 thinner cirri..... *R. tuberculata* sp. nov.
2′. Caruncle anteriorly raised from prostomium; anterior branchiae conspicuously large, foliaceous; pygidium with 18 broad or cylindrical lobes.. *R. foliosa* sp. nov.

Rhynchospio glutaea (EHLERS, 1897)

(Fig. 4a–q)

Scolecolepis glutaea EHLERS, 1897, pp. 83–85, pl. 5, figs. 129–132, pl. 6, figs. 133–135; 1901, p. 165.
Scolecolepis cornifera EHLERS, 1913, pp. 509–510, pl. 36, fig. 5.
Rhynchospio arenincola HARTMAN, 1936, p. 51, figs. 20–22.
Rhynchospio glutaea: HARTMAN, 1953, p. 42; 1966, pp. 21–22, pl. 5, figs. 8–10; DAY, 1967, p. 478, fig. 18.6. a–c; BLAKE & KUDENOV, 1978, p. 199; BLAKE, 1983, p. 219.
Rhynchospio arenincola asiatica CHLEBOVITSCH, 1959, pp. 175–176, fig. 6.
Malacoceros (*Rhynchospio*) *glutaeus*: PETTIBONE, 1963, p. 90; FOSTER, 1971a, pp. 53–56, figs. 100–111.

Material examined. Yoichi Bay, Hokkaido, 43°12.4′N, 140°49.7′E, in 16 m (1), V–1987. Off Kobui, Hokkaido, in 10–15 m (16), VII–1960. Sodegaura, Tokyo Bay, in tidelands (79), V–1971. Off Ichikawa, Tokyo Bay, in tidelands (685), VI–1975. Banzu, Chiba Pref., in 3 m (72), VI–1974. Off Ushigome, Chiba Pref., in tidelands (66), IV–1987. Aburatsubo Bay, intertidal zone (7), III–1968. Sagami Bay, 35° 16.3′N, 139°33.1′E, in 20 m (2), 35°17.4′N, 139°30.0′E, in 10 m (10), VII–1979. Niijima Harbor, intertidal zone (1), VII–1977. Off Yura River, Wakasa Bay, in 3 m (1), coll. I. HAYASHI. Amakusa, Kyushu, intertidal zone, V–1979 (5), VIII–1979 (8), coll. H. TSUTSUMI.

Description. Largest complete specimen with 59 setigers, measuring 8 mm in length and about 0.5 mm in width including parapodia. Body slender, subcylindrical, yellowish tan in alcohol.

Prostomium anteriorly T-shaped with prominent lateral horns, continuing posteriorly as bilobed nuchal organ to anterior margin of setiger 2; 4 eyes present, anterior pair larger, crescentic; occipital tentacle absent (Fig. 4a).

Branchiae present from setiger 2 (Fig. 4a, b), continuing nearly to end of body; branchiae elongate, tapered, fused only basally with notopodial lamellae; heavily ciliated band present on posterior branchial surface, extending across dorsum to opposite dorsal lamellae (Fig. 4a, e).

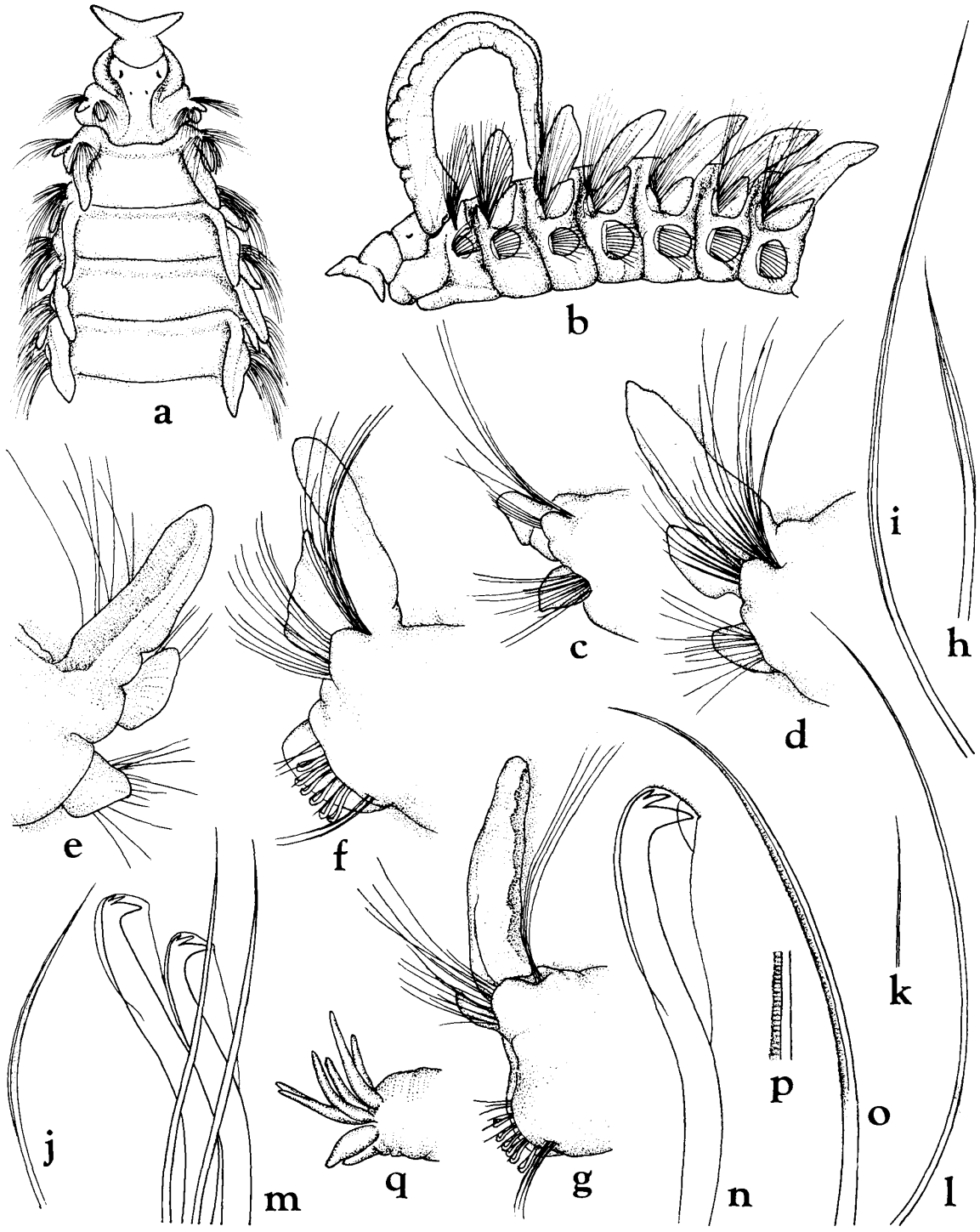

Fig. 4. *Rhynchospio glutaea* (EHLERS).——a, Anterior end, dorsal view, ×47; b, anterior end with palp, lateral view, ×47; c, setiger 1, anterior view, ×100; d, setiger 2, anterior view, ×100; e, same, posterior view, ×100; f, setiger 17, anterior view, ×100; g, setiger 30, anterior view, ×100; h, i, notopodial setae in anterior (h) and posterior (i) rows of setiger 2, ×375; j, neuropodial seta in posterior row of same setiger, ×375; k, l, notopodial setae of median setiger, ×255; m, hooded hooks and companion setae, ×615; n, hooded hook, ×960; o, ventral sabre seta, ×680; p, part of sabre seta, ×960; q, pygidium, lateral view, ×94.

Parapodia of setiger 1 with subtriangular noto- and neuropodial postsetal lamellae bearing setae (Fig. 4c). Subsequent notopodial postsetal lamellae broadly triangular (Fig. 4d, e), largest on median setigers (Fig. 4f), thereafter decreasing in size and becoming digitiform (Fig. 4g). Neuropodial postsetal lamellae subtriangular on anterior setigers, becoming more rounded and flattened posteriorly (Fig. 4f, g).

Anterior noto- and neuropodial setae all capillaries; setae arranged in two rows, notopodial setae of anterior row shorter than those of posterior row, with sheaths and light granulations (Fig. 4h), setae of posterior row with sheaths but lacking granulations (Fig. 4i); posterior notopodial setae lacking sheaths and granulations (Fig. 4k, l). Anterior neuropodial setae similar to notopodial setae, with widely sheathed and granulated capillaries in anterior row (Fig. 4j) and thin capillaries in posterior row. Neuropodial hooded hooks from setiger 13–17, numbering up to 6 per fascicle; hooks accompanied by capillaries throughout (Fig. 4m); hooks with two small teeth above main fang, secondary hood small (Fig. 4n). Ventral sabre setae from neuropodial setiger 10–17, numbering two to three per fascicle; each elongate, curved, widely limbate, heavily reticulated and granulated (Fig. 4o, p).

Pygidium with two ventral short, thick cirri and six thinner lateral ones (Fig. 4q).

Remarks. *Rhynchospio glutaea* is a small species occurring mainly in intertidal sand or sandy mud environments.

The species is new to the Japanese fauna.

Distribution. Magellan Strait; San Mateo County, California; South Africa; Florida; Chile; Falkland Island; Kurile Islands; Japan; intertidal to 120 m.

Rhynchospio tuberculata sp. nov.

(Fig. 5a–q)

Material examined. Tokyo Bay, 35°34.0′N, 139°56.0′E, in 14 m (1), VIII–1981. Off Chigasaki, Sagami Bay, 35°18.7′N, 139°24.0′E, in 8 m (holotype and 170 paratypes), VI–1982, coll. Kanagawa Fish. Exper. Sta.

Description. Holotype largest complete individual with 63 setigers, measuring 12 mm in length and about 1 mm in width including parapodia; oocytes present. Body slender, subcylindrical, light tan in alcohol.

Prostomium well-developed, anteriorly prolonged, bearing a pair of lateral horns with small distal annulations; horns with 3 minute tubercles on their underside; prostomium with caruncle bearing large, conical, pointed elevation anteriorly; 4 small black eyes arranged in crescent, posterior pair located at elevation of caruncle; prostomium extending posteriorly to setiger 1 (Fig. 5a-d). Peristomium distinct from setiger 1 but not developed into wings or hood (Fig. 5c).

Branchiae present from setiger 2, continuing nearly to last setiger; branchiae overlapping middorsally through median region (Fig. 5a); branchiae on setiger 2 large, well developed, nearly as large as those on following setigers (Fig. 5f); each branchia separated from dorsal lamellae; inner margin ciliated, with transverse ciliary ridges.

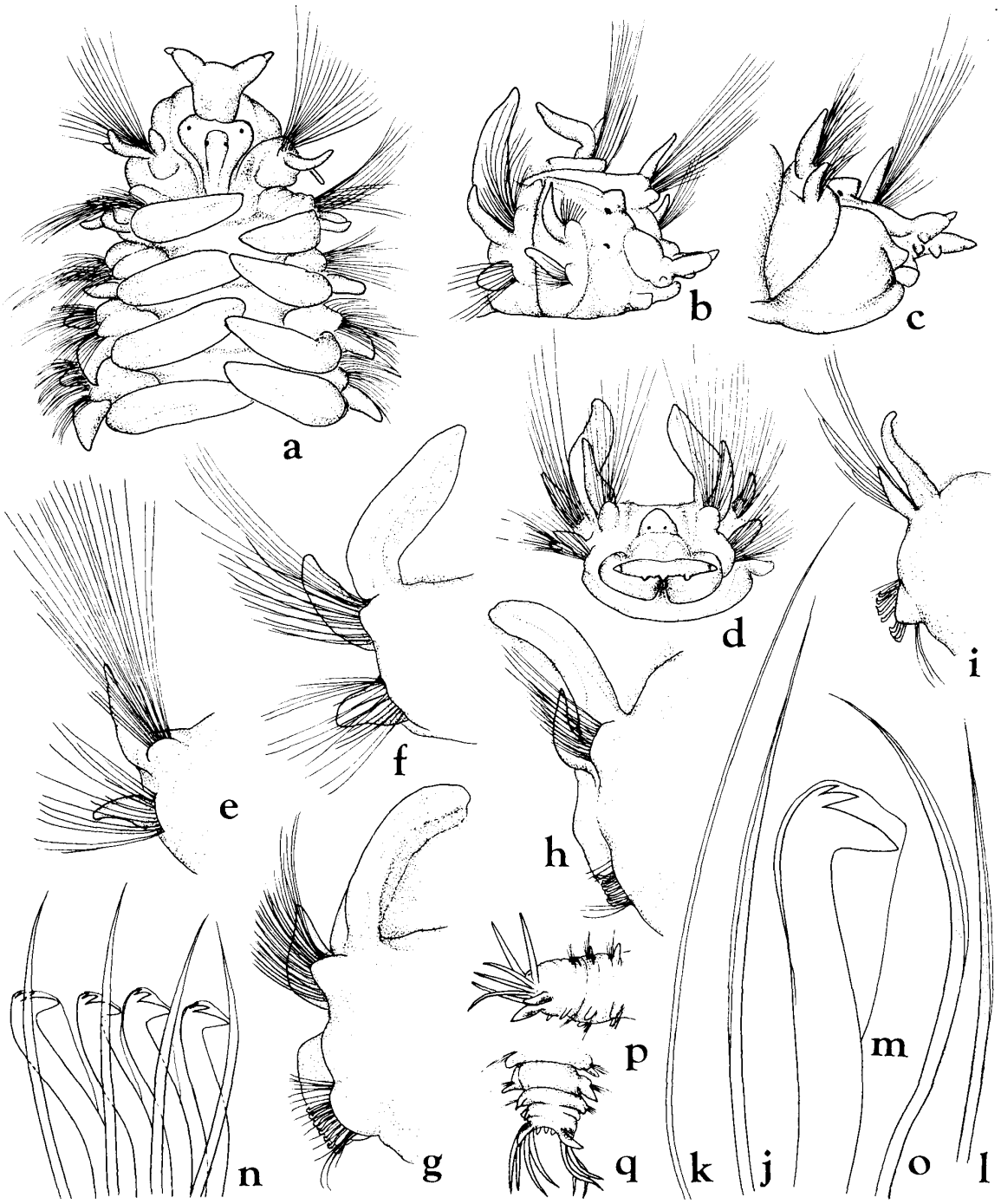

Fig. 5. *Rhynchospio tuberculata* sp. nov.——a, Anterior end, dorsal view, ×47; b, same, dorsolateral view, distal part of right notopodial setae omitted, ×47; c, prostomium and setiger 1, lateral view, ×47; d, anterior end, frontal view, ×47; e, setiger 1, anterior view, ×62; f, setiger 2, anterior view, ×62; g, setiger 16, anterior view, ×62; h, setiger 32, anterior view, ×62; i, posterior setiger, posterior view, ×62; j, k, notopodial setae in anterior (j) and posterior (k) rows of setiger 2, ×375; l, neuropodial seta in anterior row of same setiger, ×375; m, hooded hook, ×960; n, hooded hooks with companion setae, ×375; o, ventral sabre seta, ×375; p, q, posterior ends, lateral (p) and ventral (q) views, ×47.

Notopodial lamellae digitate on setiger 1 (Fig. 5e), becoming triangular, tapering to fine tips (Fig. 5g), becoming smaller, digitate in posterior setigers (Fig. 5h, i). Neuropodial lamellae low, rounded throughout, largest in anterior setigers.

Notopodial setae all capillaries, anterior setae arranged in 2 rows, setae of anterior row broad, limbate, moderately granulated (Fig. 5j); setae of posterior row longer, lacking granulations (Fig. 5k); posterior capillaries include short and long, non-granulated setae. Anterior neuropodial capillaries arranged in 2 rows, similar to notopodial setae (Fig. 5l). Neuropodial hooded hooks from setiger 17 (setiger 16–17 in paratypes), numbering up to 10 per fascicle, posteriorly only up to 6 hooks per fascicle; hooks with 2 small teeth above main fang (Fig. 5m); hooks accompanied by limbate, granulated capillaries (Fig. 5n). Ventral sabre setae number 2–3 per fascicle, each seta with sheath, distally granulated (Fig. 5o).

Pygidium terminal, with two short ventrolateral lobes with brownish pigment on ventral sides (Fig. 5p, q), and 4 lateral pairs of long, slender cirri; dorsal and ventral sides of pygidium with 3–4 rudimentary minute cirri (Fig. 5q).

Remarks. *Rhynchospio tuberculata* differs from other species of the genus in that the lateral horns of the prostomium have small 3 tubercles on the underside, the caruncle has a conical, pointed elevation anteriorly, and the short anal lobes of the pygidium have brownish pigment on the ventral sides.

Type-series. Holotype, NSMT–Pol. H 329; 170 paratypes, NSMT–Pol. P 330.

Distribution. Japan; 8–14 m

Rhynchospio foliosa sp. nov.

(Figs. 6a–f, 7a–l)

Material examined. Sawaki, Hokkaido, intertidal zone (1), VIII–1960. Usujiri Bay, Hokkaido, in colony of *Pseudopotamilla myriops* (MARENZELLER) (holotype), X–1982, coll. K. YOKOUCHI.

Description. Holotype largest complete individual, measuring 18 mm in length and about 1.0 mm in width for 79 setigers including parapodia. Body slender, subcylindrical, light tan in alcohol; oocytes present.

Prostomium with rounded anterior margin and very pronounced broad lateral horns; with raised medially-incised ridge about half-way between anterior and posterior ends; 2 pairs of black eyes present but not visible distinctly; caruncle anteriorly raised from prostomium and extending posteriorly to base of setiger 1 (Fig. 6a, b). Peristomium distinct from setiger 1, lacking lateral wings (Fig. 6b, c).

Branchiae present from setiger 2, continuing nearly to end of body; branchiae large, broad, foliaceous with pointed tips, fused basally with notopodial lamellae (Figs. 6e, f, 7a); branchiae becoming thinner, elliptical in posterior setigers (Fig. 7b); all branchiae ciliated on inner margin.

Notopodial postsetal lamellae subtriangular on anterior setigers (Fig. 6d, e), thereafter gradually elongated with pointed tips (Figs. 6f, 7a). Neuropodial postsetal

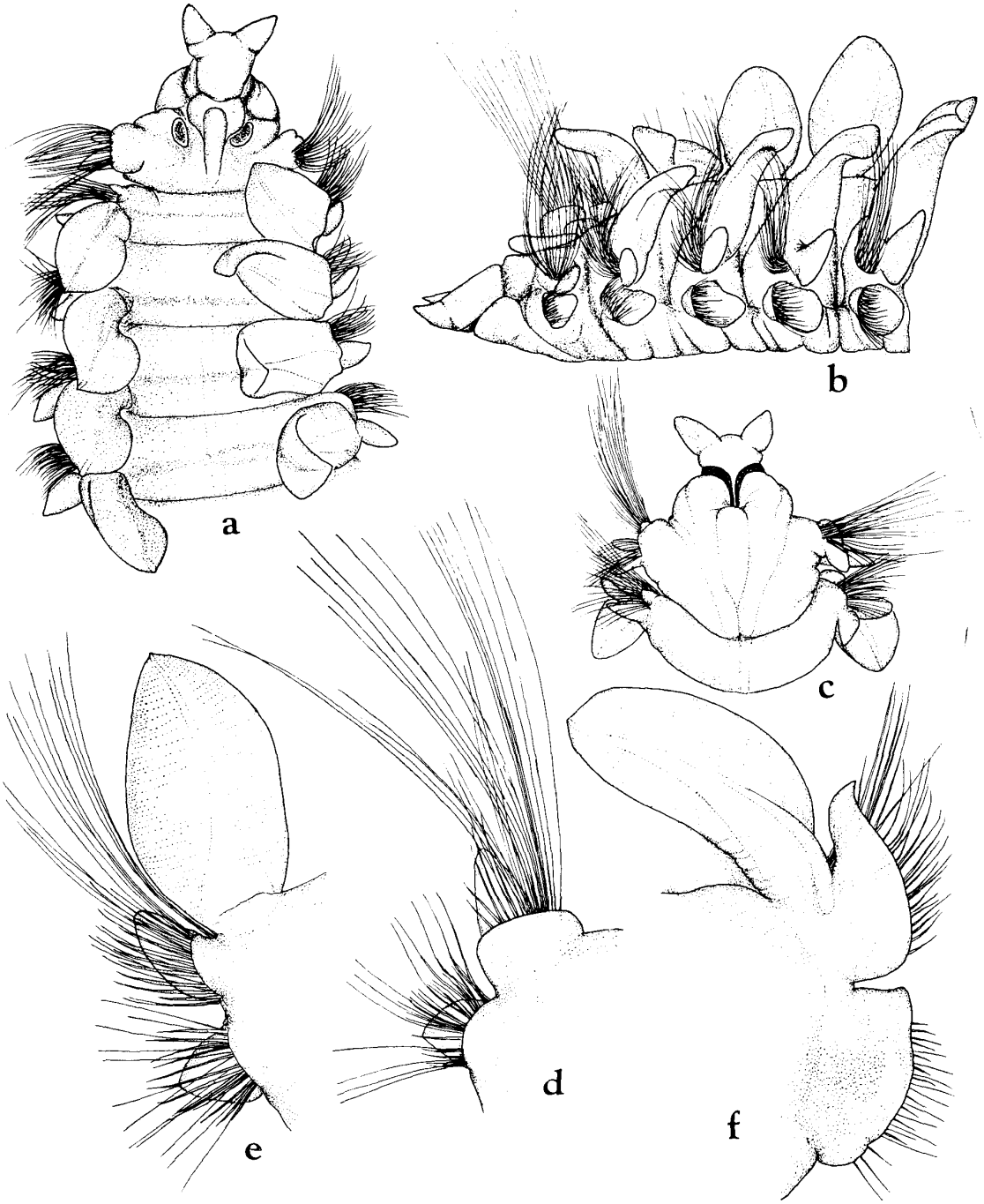

Fig. 6. *Rhynchospio foliosa* sp. nov.——a, Anterior end, dorsal view, ×40; b, same, lateral view, ×40; c, same, ventral view, ×40; d, setiger l, anterior view, ×82; e, setiger 2 with branchia, anterior view, ×82; f, setiger 12 with branchia, posterior view, ×82.

lamellae triangular on first 3 setigers (Fig. 6d, e); lamellae lower, broader in middle and posterior setigers (Figs. 6f, 7a, b). Interramal channel between notopodial and neuropodial lamellae in posterior setigers with membranous ridge and ciliary tuft

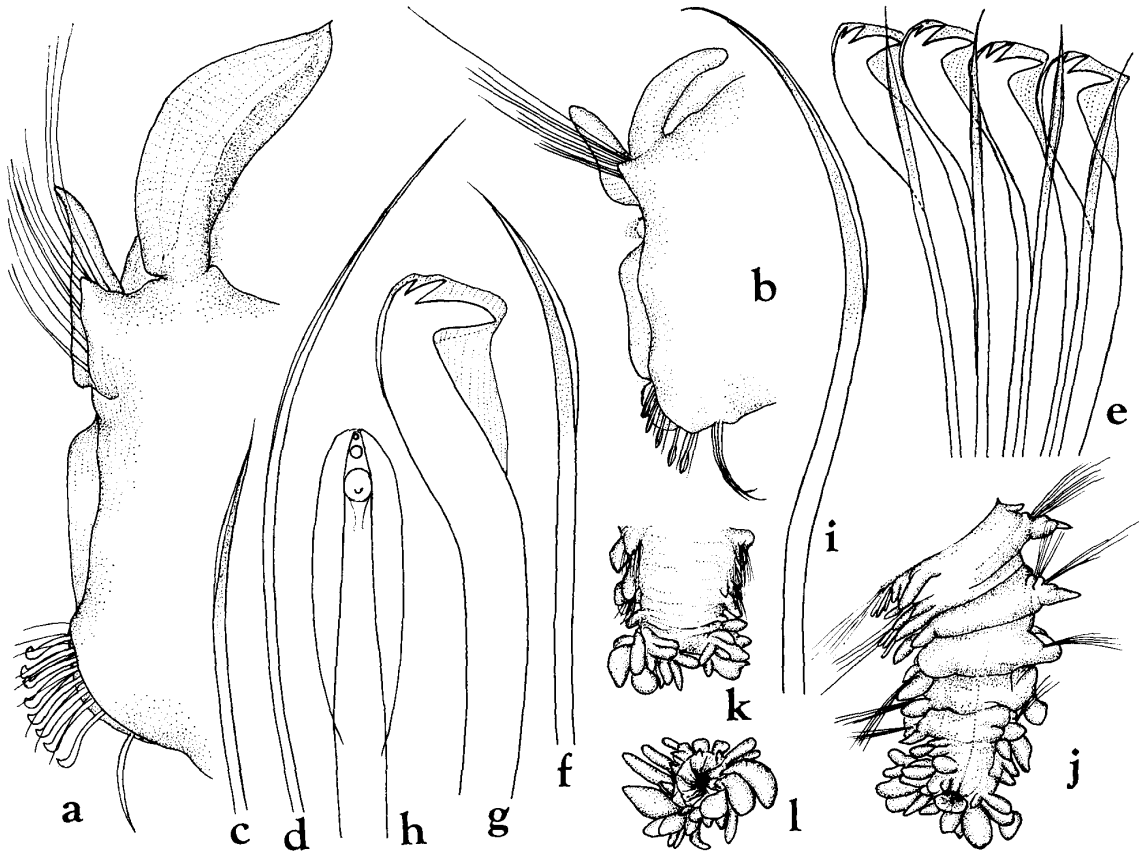

Fig. 7. *Rhynchospio foliosa* sp. nov.——a, Setiger 30 with branchia, anterior view, ×88; b, posterior setiger with branchia, anterior view, ×88; c, d, notopodial capillary setae in anterior (c) and posterior (d) rows of setiger 2, ×240; e, series of hooded hooks with companion setae, ×353; f, companion seta, ×578; g, hooded hook, lateral view, ×578; h, same, frontal view, ×900; i, ventral sabre seta, ×353; j, k, posterior ends, dorsal (j) and ventral (k) views, ×44; l, pygidium, frontal view, ×44.

(Fig. 7b).

Notopodial setae all capillaries; setae of superior hundle on setiger 1 very long, thin, lacking granulations and sheaths, inferior setae short with sheaths and lacking granulations (Fig. 6d). Anterior setae arranged in 2 rows, setae of anterior row short, broad, moderately granulated with sheaths (Fig. 7c); setae of posterior row longer, with sheaths but lacking granulations (Fig. 7d). Posterior notopodia with fascicle of long and short, thin, sheathed, non-granulated setae. Anterior neuropodial capillaries similar to notopodial setae, arranged in 2 rows. Neuropodial hooded hooks present from setiger 17, numbering up to 8 per fascicle, hooks accompanied throughout by anterior row of limbate, moderately granulated capillary setae (Fig. 7e, f); hooks tridentate, with 2 small teeth above main fang (Fig. 7g, h). Ventral sabre setae from neuropodial setiger 15, numbering 1–3 per fascicle, each seta moderately granulated, thinly sheathed (Fig. 7i).

Pygidium with 18 foliaceous or cylindrical lobes in irregular sizes surrounding terminal anus (Fig. 7j-l).

Remarks. *Rhynchospio foliosa* differs from other species of the genus in that the anterior branchiae are conspicuously large and foliaceous and the pygidium has 18 broad or cylindrical lobes surrounding anus.

Type-series. Holotype, NSMT-Pol. H 331.

Distribution. Japan; intertidal zone.

Literature Cited

BLAKE, J. A., 1983. Polychaetes of the family Spionidae from South America, Antarctica and adjacent seas and island. In: *Biology of the Antarctic Seas XIV. Antarctic Res. Ser.*, **39**: 205–287. Washington, DC: Americal Geophysical Union.

——— & J. D. KUDENOV, 1978. The Spionidae (Polychaeta) from southeastern Australia and adjacent areas with a revision of the genera. *Mem. natn. Mus. Vict.*, **39**: 171–280.

CHLEBOVITSCH, V. V., 1959. Species of polychaete worms from the Kurile Islands, which are new or recorded for the first time in the U.S.S.R. *Zool. Zhurnal*, **28**: 167–181. (In Russian.)

DAY, J. H., 1967. *A Monograph on the Polychaeta of Southern Africa. Part* 2. *Sedentaria. Brit. Mus. (Nat. Hist.) Publ.*, (656): 459–878.

EHLERS, E., 1897. *Polychaeten.* 148 pp. Hamburger magalhaenische Sammelreise.

——— 1901. *Die Polychaeten des magellanischen und chilenischen Strandes.* 232 pp. Festschr. K. Ges. Wiss. Göttingen (Math. Phys.).

——— 1913. Die Polychaeten-Sammlungen der Deutschen Südpolar-Expedition 1901–1903. *Dt. Südpol.-Exped.*, **13**: 397–598.

FAUCHALD, K., 1977. The polychaete worms. Definitions and keys to the orders, families and genera. *Sci. Ser. Nat. Hist. Mus. Los Angeles Cty.*, **28**: 1–190.

FAUVEL, P., 1928. Annélides polychètes nouvelles de l'Inde. *Bull. Mus. natn. Hist. nat., Paris*, **34**: 90–96.

——— 1930. Annelida Polychaeta of the Madras Government Museum. *Bull. Madras Govt. Mus. (n. s.) (Nat. Hist.)*, I-2: 1–72.

——— 1953. Annelida Polychaeta. In: *Fauna of India including Pakistan, Ceylon, Burma and Malaya.* R. B. S. Sewell (Ed.) Allahabad, Ine Indian Press Ltd., 507 pp.

FOSTER, N. M., 1971a. Spionidae (Polychaeta) of the Gulf of Mexico and the Caribbean Sea. *Stud. Fauna Curaçao*, **36**: 1–183.

——— 1971b. Redescription of the spionid polychaete *Malacoceros* (*Malacoceros*) *indicus* (FAUVEL 1928). *J. Fish. Res. Bd. Can.*, **28**: 1455–1457.

HARTMAN, O., 1936. New species of Spionidae (Annelida Polychaeta) from the coast of California. *Univ. Calif. Publ. Zool.*, **41**: 45–52.

——— 1953. Non-pelagic Polychaeta. *Swed. Antarctica Exped.*, **4**: 1–83.

——— 1966. Polychaeta Myzostomidae and Sedentaria of Antarctica. *Amer. Geophys. Union. Antarctic Res.*, **7**: 1–158.

MONRO, C. C. A., 1931. Polychaeta, Oligochaeta, Echiuroidea and Sipunculoidea. Great Barrier Reef (Queensland) Exp. 1928–29. *Sci. Rep. Brit. Mus. (Nat. Hist.)*, **4**: 1–37.

PETTIBONE, M. H., 1963. Revision of some genera of polychaete worms of the family Spionidae, including the description of a new species of *Scolelepis*. *Proc. Biol. Soc. Wash.*, **76**: 89–104.

QUATREFAGES, A. DE, 1843. Description de qualques sepèces nouvelles d'Annélides errantes recueil lies sur les côtes de la Manche. *Mag. Zool. Paris*, ser. 2, **5**: 1–16, 3 pls.